

Monetary Half Life Value™ & Monetary Part-Life Value™ ($\frac{1}{3}$ -Life, $\frac{3}{4}$ -Life, $\frac{1}{8}$ -Life .333, .75, .125-life)

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Introduction

This paper introduces the concept of Monetary Half-Life Decay Funds™, an economic-financial framework that adapts the principle of **atomic half-life** into programmable crypto-economics or economic Half Life or economic part- life The model demonstrates how cryptocurrency can be systematically reduced over time, creating predictable scarcity. This scarcity anchors deterministic valuation mechanics while allowing markets to evolve stochastically.

Concept Framework

1. Half-Life Supply Decay

The foundation of the framework is a programmed reduction in circulating supply. After each defined interval, a portion of the monetary base is permanently removed, or “burned.”

All burns are conducted on-chain rather than through custodial wallets. This ensures transparency, verifiability, and immutability, protecting both the integrity of savings and the credibility of the monetary base.

The result is a predictable curve of diminishing supply that forms the deterministic baseline of the system.

2. Inversely Proportional Value

As supply decays, scarcity naturally increases. This creates a deterministic valuation framework where value is independent of market mood or speculation. These are Monetary Part-Life Values™ — programmed, mechanical, and transparent.

At a certain threshold, known as the xPoint™, deterministic scarcity and market valuation may align. The xPoint should not be seen as a fixed outcome, but as a possible target, much like a blockchain fork: anticipated, prepared for, but ultimately contingent on human participation.

3. Trend Emergence Beyond xPoint™

Beyond the xPoint™, valuation shifts from deterministic mechanics into stochastic behavior. Market psychology, speculative waves, and macroeconomic events dominate. This is the second, unpredictable phase of valuation.

Moral and Economic Safeguards

The choice of half-life intervals is not arbitrary; it has ethical and economic consequences:

- Half-lives extending beyond 80 years reflect a commitment to intergenerational responsibility and monetary stability. They anchor the system in long-term stewardship.
- Shortened half-lives introduce reckless volatility. They accelerate scarcity in ways that destabilize the economy, creating conditions for speculative bubbles and systemic risk.

Thus, half-life design is both a technical and moral choice, balancing sustainability with innovation.

Implications

1. Scarcity-driven valuation

Programmed decay ensures scarcity is hard-coded into the system, independent of speculation.

2. Deterministic vs. stochastic values

- Deterministic valuation: Monetary Part-Life Value™ derived from programmed burns.
- Stochastic valuation: Emergent, trend-driven values influenced by external markets.

3. xPoint™ as a target, not a guarantee

The xPoint™ is a conceptual threshold where deterministic and stochastic phases might intersect. Like a fork, it is a reference, not a certainty.

4. Dual-phase investment model

- Phase I (Deterministic): Scarcity mechanics provide stability and predictability.
- Phase II (Stochastic): Value discovery is market-driven, volatile, and speculative.

Conclusion

The Monetary Half-Life Decay Fund™ merges physics-inspired scarcity mechanics with modern crypto-economics. By enforcing on-chain burns, it guarantees transparency, security of savings, and alignment with blockchain's core principles.

Through Monetary Part-Life Values™, investors gain predictable baselines. At the xPoint™, these baselines may align with market reality — though never with certainty. Beyond that threshold, stochastic valuations take hold.

The framework emphasizes that half-life design is not only technical, but moral: long horizons encourage responsible stewardship, while short cycles risk reckless economics.

This dual-phase, ethics-aware model balances predictability with organic discovery, offering a new way to structure monetary systems in the blockchain era.

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